

ITEM #0202223A – J-HOOK VANE

Description: Work under this item shall consist of furnishing and placing individual J-Hook Vanes/Rock Vanes using boulder/rounded and Footer Rock stone material. This work shall be done in accordance with the dimension and details shown on the plans/permit plans, at locations indicated on the plans/permit or as directed by personnel from the Office of Environmental Planning (OEP), an OEP approved representative, or a representative of the Department of Energy and Environmental Protection (DEEP) Inland Fisheries Division. The intent of the J-Hook Vane/Rock Vane and Footer Rock is to improve/create aquatic habitat by enhancing flow diversity through the formation of scour pools.

Materials: Boulder/Rounded Stone shall consist of sound, durable rock, resistant to the action of air and water. Either field stone or rough, unhewn quarry stone may be used. The boulder/rounded stone shall be similar in mineral composition and color to the adjacent existing or proposed channel bed.

Boulder/Rounded Stone with visible cracks or spalling will not be permitted. Rock excavated from ledge (bedrock) formations, or broken from larger boulders, will not be accepted. Broken concrete will not be accepted. Stones consisting of sandstone, shale, or other rock material prone to disintegration will not be permitted.

Footer Rocks shall serve as the foundation for top layer of boulder/rounded stone. These rocks shall have reasonable flat tops and bottoms to enable top layer placement of boulder/rounded material. Cut rock excavated from ledge (bedrock) formations is acceptable. Broken concrete will not be accepted. Stones consisting of sandstone, shale, or other rock material prone to disintegration will not be permitted.

Material the Contractor proposes to use must be inspected and approved by the OEP prior to the excavation of material on-site or hauling of the material from an off-site source. A minimum notice of 2 weeks must be given to the OEP for inspection and approval.

Construction Methods: The Engineer shall ensure that the areas for the J-Hook/Rock Vane and Footer Rock placement are to be clear of construction material, equipment, cofferdams, and/or water-handling devices, unless specifically required to be left in place during the installation as indicated in the contract plans or permit.

Prior to installation, the Contractor shall stake out the location of the J-Hook/Rock Vane and Footer Rock, by placing stakes at each end and shall notify the Engineer in the field for review. Final location will be at the discretion of OEP or approved representative.

All erosion and sedimentation control devices, including dewatering basins, shall be implemented prior to beginning the installation of J-Hook/Rock Vane and Footer Rock.

Notify the OEP at least 2 weeks prior to initiating the placement of J-Hook Vane/Rock Vane and Footer Rock. Any and all coordination with the DEEP Inland Fisheries Division will be done

through the OEP. The Contractor shall react accordingly to this requirement by giving the Engineer sufficient time to fulfill the Engineer's obligation. Placement of the J-Hook Vane/Rock Vane and Footer Rock should proceed during periods of low flow whenever possible to ensure proper placement and as directed by the OEP or an OEP approved representative. No work shall be performed without a DEEP Inland Fisheries Division representative on site, unless specifically requested otherwise.

The placement of the J-Hook Vane/Rock Vane and Footer Rock shall be in accordance with the locations indicated on the plans/permit. The final location may deviate from plans/permit at the discretion of OEP or an OEP approved representative.

If in the opinion of the OEP, DEEP Inland Fisheries Division or an approved OEP representative that the J-Hook Vane/Rock Vane and Footer Rock material is too large or small for the hydraulic opening or may affect habitat conditions at any location in the work area, the Contractor shall furnish and place alternative material as directed.

Equipment: When placing and maneuvering J-Hook/Rock Vane and Footer Rock material within the channel bed or embedding boulder/rounded stones into the streambank, the Contractor shall use an excavator with an articulated bucket (with thumb). Any other equipment proposed to be used shall be reviewed and approved in advance by OEP or an OEP approved representative.

All disturbed areas as a result of the placement of J-Hook/Rock Vane and Footer Rock shall be permanently stabilized using approved sediment and erosion control measures.

Method of Measurement: This work will be measured for payment for each J-Hook/Rock Vane and Footer Rock installed and accepted at the locations called for on the plans or as directed by OEP or an OEP approved representative, within the limits of the proposed work.

Basis of Payment: This work will be paid for at the contract unit price each for the item "J-Hook Vane/Rock Vane and Footer Rock", complete in place, including all erosion & sedimentation controls, water handling, excavations, materials, equipment, tools and labor incidental thereto, as necessary to complete this work.

Pay Item

J-Hook Vane/Rock Vane and Footer Rock

Pay Unit

EA.